

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Childress et al.**

Serial No.: **10/645,198**

Filed: **August 21, 2003**

For: **Automatic Software Distribution
and Installation in a Multi-Tiered
Computer Network**

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Group Art Unit: **2193**

Examiner: **Ingberg, Todd D.**

Confirmation No.: **7111**

35525

PATENT TRADEMARK OFFICE
CUSTOMER NUMBER

**Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

APPEAL BRIEF (37 C.F.R. 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on August 19, 2008.

A fee of \$540.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge these fees which may be required to IBM Corporation Deposit Account No. 09-0447. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

REAL PARTY IN INTEREST

The real party in interest in this appeal is the following party: International Business Machines Corporation of Armonk, New York.

RELATED APPEALS AND INTERFERENCES

This appeal has no related proceedings or interferences.

The subject matter of the present application is related to co-pending United States application, Serial Number 10/302,523, entitled METHOD, SYSTEM, AND COMPUTER PROGRAM PRODUCT FOR PROVIDING A FOUR-TIER CORBA ARCHITECTURE, filed November 21, 2002, assigned to the assignee hereof and incorporated herein by reference.

STATUS OF CLAIMS

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

The claims in the application are: 1-33

B. STATUS OF ALL THE CLAIMS IN APPLICATION

Claims canceled: None

Claims withdrawn from consideration but not canceled: None

Claims pending: 1-33

Claims allowed: None

Claims rejected: 1-33

Claims objected to: None

C. CLAIMS ON APPEAL

The claims on appeal are: 1-33

STATUS OF AMENDMENTS

No amendments have been filed.

SUMMARY OF CLAIMED SUBJECT MATTER

A. CLAIM 1 - INDEPENDENT

The subject matter of claim 1 is directed to a method in a data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy (Specification p. 14, ll. 1-5; Figs. 4A and 4B), said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB (Specification p. 11, ll. 11-16; Fig. 2, reference numeral 200), a hub tier that is below said global tier (Specification p. 4, l. 7), a target tier that is below said hub tier (Specification p. 4, l. 8), and a gateway tier between the hub tier and the target tier (Specification p. 7, ll. 19-21), said method comprising the steps of:

receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier (Specification p. 8, ll. 3-5);

starting, by said global computer system, a distribution process in said hub computer system (Specification p. 8, ll. 22-24);

distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier (Specification p. 8, ll. 17-22);

automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process (Specification p. 10, ll. 5-6); and

automatically installing, by said target computer system, said file package utilizing said installation process (Specification p. 10, ll. 7-8).

B. CLAIM 12 - INDEPENDENT

The subject matter of claim 12 is directed to a data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy (Specification p. 14, ll. 1-5; Figs. 4A and 4B), said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB (Specification p. 11, ll. 11-16; Fig. 2, reference numeral 200), a hub tier that is below said global tier (Specification p. 4, l. 7), a target tier that is below said hub tier (Specification p. 4, l. 8), and a

gateway tier between the hub tier and the target tier (Specification p. 7, ll. 19-21), said system comprising:

a global computer system that is located in said global tier receiving a distribution request to distribute a file package to a target computer system that is located in said target tier (Specification p. 8, ll. 3-5);

said global computer system starting a distribution process in said hub computer system (Specification p. 8, ll. 22-24);

said global computer system distributing said file package and an installation process to said hub computer system that is located in said hub tier (Specification p. 8, ll. 17-22);

said hub computer system utilizing said distribution process to automatically distributing said file package and said installation process to said target computer system (Specification p. 10, ll. 5-6); and

said target computer system automatically installing said file package utilizing said installation process (Specification p. 10, ll. 7-8).

C. CLAIM 23 - INDEPENDENT

The subject matter of claim 23 is directed to a computer program product in a recordable-type medium for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy (Specification p. 14, ll. 1-5; Figs. 4A and 4B), said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB (Specification p. 11, ll. 11-16; Fig. 2, reference numeral 200), a hub tier that is below said global tier (Specification p. 4, l. 7), a target tier that is below said hub tier (Specification p. 4, l. 8), and a gateway tier between the hub tier and the target tier (Specification p. 7, ll. 19-21), said computer program product comprising:

instruction means (Specification p. 14, ll. 5-8; Fig. 4A, reference numeral 402) for receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier (Specification p. 8, ll. 3-5);

instruction means (Specification p. 15, ll. 25-28; Fig. 4AB, reference numeral 438) for starting, by said global computer system, a distribution process in said hub computer system (Specification p. 8, ll. 22-24);

instruction means (Specification p. 14, ll. 21-24; Fig. 4A, reference numeral 414) for distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier (Specification p. 8, ll. 17-22);

instruction means (spec page) for automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process (Specification p. 10, ll. 5-6); and

instruction means (spec page) for automatically installing, by said target computer system, said file package utilizing said installation process (Specification p. 10, ll. 7-8).

D. CLAIM 24 - DEPENDENT

The subject matter of claim 24 is directed to the product according to claim 23, further comprising:

a three-tier *CORBA* network (Specification p. 2, ll. 30-32; Fig. 1, reference numeral 100), said *CORBA* network including a hub *CORBA* ORB coupled to a second spoke *CORBA* ORB (Specification p. 3, ll. 10-15; Fig. 1, reference numerals 102 and 108), and said spoke *CORBA* ORB being coupled to a gateway *CORBA* ORB (Specification p. 3, ll. 10-15; Fig. 1, reference numerals 108 and 120), wherein said hub *CORBA* ORB occupies said hub tier of said architecture (Specification p. 3, ll. 10-15; Fig. 1, reference numeral 102), said spoke *CORBA* ORB occupies a spoke tier of said architecture (Specification p. 3, ll. 10-15; Fig. 1, reference numeral 108), said spoke tier between said hub tier and a gateway tier (Specification p. 3, ll. 10-15; Fig. 1, reference numerals 108 and 120), and said gateway *CORBA* ORB occupies said gateway tier (Specification p. 3, ll. 10-15; Fig. 1, reference numeral 120), said gateway tier being located between said gateway tier and said target tier (Specification p. 3, ll. 10-15; Fig. 1, reference numerals 134 and 138); and

instruction means (Specification p. 11, ll. 13-15; Fig. 1, reference numeral 201) for coupling said global computer system to said three-tier *CORBA* network (Specification p. 11, ll. 13-15; Fig. 1, reference numeral 201), said global computer system occupies a top tier of said architecture over said first tier (Specification p. 11, ll. 19-20; Fig. 1, reference numeral 201), said global computer system functioning as a *CORBA* ORB and treating said hub *CORBA* ORB as a managed node (Specification p. 11, ll. 13-15; Fig. 1, reference numeral 201).

E. CLAIM 25 - DEPENDENT

The subject matter of claim 25 is directed to the product according to claim 23, further comprising:

instruction means (Specification p. 14, ll. 17-21; Fig. 4A, reference numerals 406, 412, and 414) for assigning a unique request identifier to said distribution request (Specification p. 8, ll. 10-14); and

instruction means (Specification p. 14, ll. 17-21; Fig. 4A, reference numerals 406, 412, and 414) for tracking processing of said distribution request as it is processed by said global computer system, said hub computer system, and said target computer system using said unique request identifier (Specification p. 11, ll. 2-7).

F. CLAIM 26 - DEPENDENT

The subject matter of claim 26 is directed to the product according to claim 23, further comprising:

instruction means (Specification p. 15, l. 29 – p. 16, l. 5; Fig. 4B, reference numeral 440) for determining by said global computer system whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful (Specification p. 15, l. 29 – p. 16, l. 5; Fig. 4B, reference numeral 440);

in response to a determination that said distribution was unsuccessful, instruction means (Specification p. 16, ll. 5-11; Fig. 4B, reference numeral 445) for re-attempting said distribution (Specification p. 16, ll. 5-11; Fig. 4B, reference numeral 445).

G. CLAIM 27 - DEPENDENT

The subject matter of claim 27 is directed to the product according to claim 23, further comprising:

instruction means (Specification p. 14, ll. 21-24; Fig. 4A, reference numeral 414) for including a queue within said global computer system for storing distribution requests (Specification p. 14, ll. 21-24; Fig. 4A, reference numeral 414);

in response to receiving said distribution request, instruction means (Specification p. 14, ll. 21-24; Fig. 4A, reference numeral 414) for placing said distribution request in said queue (Specification p. 14, ll. 21-24; Fig. 4A, reference numeral 414); and

instruction means (Specification p. 14, ll. 24-26; Fig. 4A, reference numeral 416) for processing a next request from said queue utilizing said global computer system (Specification p. 14, ll. 24-26; Fig. 4A, reference numeral 416).

H. CLAIM 28 - DEPENDENT

The subject matter of claim 28 is directed to the product according to claim 27, further comprising:

instruction means (Specification p. 15, l. 29 – p. 16, l. 5; Fig. 4B, reference numeral 440) for determining by said global computer system whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful (Specification p. 15, l. 29 – p. 16, l. 5; Fig. 4B, reference numeral 440);

in response to a determination that said distribution was unsuccessful, instruction means (Specification p. 16, ll. 5-7; Fig. 4B, reference numeral 445) for re-queuing said distribution request by restoring said distribution request in said queue (Specification p. 16, ll. 5-7; Fig. 4B, reference numeral 445); and

said global computer system making another attempt to distribute said distribution request without requiring that said distribution request be resubmitted to said global computer system (Specification p. 16, ll. 7-11).

I. CLAIM 29 - DEPENDENT

The subject matter of claim 29 is directed to the product according to claim 23, further comprising:

in response to receiving said distribution request within said global computer system, instruction means (Specification p. 15, ll. 5-12; Fig. 4A, reference numerals 426 and 428) for locking, by said global computer system, said hub computer system to prevent said hub computer system from processing other requests while said hub computer system is processing said distribution request (Specification p. 15, ll. 5-12; Fig. 4A, reference numerals 426 and 428).

J. CLAIM 30 - DEPENDENT

The subject matter of claim 30 is directed to the product according to claim 29, further comprising:

instruction means (Specification p. 15, ll. 5-12; Fig. 4A, reference numerals 426 and 428) for locking said hub computer system using a unique request identifier that identifies said distribution request (Specification p. 15, ll. 5-12; Fig. 4A, reference numerals 426 and 428).

K. CLAIM 31 - DEPENDENT

The subject matter of claim 30 is directed to the product according to claim 29, further comprising:

instruction means (Specification p. 14, ll. 29-30; Fig. 4A, reference numeral 420) for determining whether said hub computer system is available prior to said global computer system locking said hub computer system (Specification p. 14, ll. 29-30; Fig. 4A, reference numeral 420);

in response to a determination that said hub computer system is unavailable, instruction means (Specification p. 15, ll. 1-4; Fig. 4A, reference numeral 424) for waiting until said hub computer system becomes available (Specification p. 15, ll. 1-4; Fig. 4A, reference numeral 424); and

in response to a determination that said hub computer system is available, instruction means (Specification p. 15, ll. 5-8; Fig. 4A, reference numeral 426) for locking said hub computer system (Specification p. 15, ll. 5-8; Fig. 4A, reference numeral 426).

L. CLAIM 32 - DEPENDENT

The subject matter of claim 32 is directed to the product according to claim 23, further comprising:

instruction means (Specification p. 15, ll. 20-23; Fig. 4B, reference numeral 434) for including a plurality of file package requests within said distribution request (Specification p. 15, ll. 20-23; Fig. 4B, reference numeral 434), each one of said file package requests being a request to either install a particular file package or remove a particular file package (Specification p. 15, ll. 16-20; Fig. 4B, reference numeral 432); and

instruction means (Specification p. 15, ll. 16-20; Fig. 4B, reference numeral 432) for including in said distribution request an installation script for each one of said file requests that is a request to install a particular file package (Specification p. 15, ll. 16-20; Fig. 4B, reference numeral 432).

M. CLAIM 33 - DEPENDENT

The subject matter of claim 33 is directed to the product according to claim 23, further comprising:

instruction means (Specification p. 14, ll. 5-8; Fig. 4A, reference numeral 402) for receiving, within said global computer system that is located in said global tier, a distribution request to distribute a plurality of file package requests to a target computer system that is in said target tier (Specification p. 14, ll. 5-8; Fig. 4A, reference numeral 402);

each one of said file package requests being a request to either install a particular file package on said target or to remove a particular file package from said target (Specification p. 15, ll. 16-20; Fig. 4B, reference numeral 432);

instruction means (Specification p. 15, ll. 16-20; Fig. 4B, reference numeral 432) for including in said distribution request an installation script for each one of said file requests that is a request to install a particular file package (Specification p. 15, ll. 16-20; Fig. 4B, reference numeral 432);

instruction means (Specification p. 15, ll. 25-28; Fig. 4B, reference numeral 438) for starting, by said global computer system, a distribution process in said hub computer system (Specification p. 15, ll. 25-28; Fig. 4B, reference numeral 438);

instruction means (Specification p. 15, ll. 20-23; Fig. 4B, reference numeral 434) for distributing said plurality of file packages and an installation process from said global computer system to said hub computer system that is located in said hub tier (Specification p. 15, ll. 20-23; Fig. 4B, reference numeral 434);

instruction means (Specification p. 17, ll. 3-11; Fig. 5, reference numeral 506) for utilizing said distribution process within said hub to automatically distribute to said target computer system ones of said file package requests that are requests to remove a particular file package from said target computer system (Specification p. 17, ll. 3-11; Fig. 5, reference numeral 506);

instruction means (Specification p. 17, ll. 3-11; Fig. 5, reference numeral 508) for automatically removing, by said target computer system (Specification p. 17, ll. 3-11; Fig. 5, reference numeral 508), said particular file for each of said ones of said file package requests that

are requests to remove a particular file (Specification p. 17, ll. 3-11; Fig. 5, reference numeral 508);

instruction means (Specification p. 17, ll. 16-22; Fig. 5, reference numerals 514 and 516) for utilizing said distribution process within said hub to automatically distribute to said target computer system ones of said file package requests that are requests to install a particular file package on said target computer system (Specification p. 17, ll. 16-22; Fig. 5, reference numerals 514 and 516);

instruction means (Specification p. 17, ll. 16-22; Fig. 5, reference numerals 514 and 516) for automatically installing, by said target computer system, said particular file for each of said ones of said file package requests that are requests to install a particular file (Specification p. 17, ll. 16-22; Fig. 5, reference numerals 514 and 516); and

said removal requests being executed prior to said installation requests (Specification p. 17, ll. 12-18; Fig. 5, reference numerals 510, 512, and 514).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to review on appeal are as follows:

A. GROUND OF REJECTION 1

Whether claims 2, 13, and 24 are lacking antecedent basis and are indefinite under 35 U.S.C. § 112, Second Paragraph.

B. GROUND OF REJECTION 2

Whether claims 1-33 are obvious over Applicant's Admitted Prior Art (hereinafter "AAPA" in view of the commercial product HP OpenView as documented in *Nathan Muller, Focus on OpenView: A Guide to Hewlett-Packard's Network and Systems Management Platform*, CBM Books, 1995 (hereinafter "*Muller*").

ARGUMENT

A. SUMMARY OF ARGUMENT

Regarding the rejection under 35 U.S.C. § 112, Second Paragraph, the Appellants submit that the claim language clearly points out and distinctly claims the subject matter which Appellants regard as the invention. According to proper use of antecedent basis, “a three-tier CORBA network” clearly does not need an antecedent reference since this is the first appearance of this feature in the claim.

Regarding the rejection under 35 U.S.C. § 103, neither *AAPA* nor *Muller* take into account the global tier in a CORBA ORB environment, as is reflected in Claim 1. As stated in the background of the specification, which is quoted by the Examiner, “A problem may arise in a CORBA environment because the environment is limited by the CORBA specification to being only a three-tier CORBA ORB system.” Thus, a global system (as is claimed) is *qualitatively different* than a *three-tier* CORBA ORB system. For this reason, the four-tier CORBA ORB system of Claim 1 is *qualitatively different* than the software distribution system presented in *Muller*.

Because the systems of *AAPA* and *Muller* are qualitatively different, as shown in *AAPA* itself, one of ordinary skill could not technically combine the references to achieve the claimed invention. For similar reasons, one of ordinary skill would have no reason to combine the references to achieve the claimed invention. Thus, no reason can be stated to achieve the legal conclusion that Claim 1 is obvious in view of the references under the standard of *KSR Int’l*. Accordingly, no *prima facie* obviousness rejection can be stated against this grouping of claims using a combination of these references.

B. GROUND OF REJECTION 1 (Claims 2, 13, and 24)

The first ground of rejection is the assertion that claims 2, 13, and 24 are lacking antecedent basis and indefinite under 35 U.S.C. § 112, Second Paragraph. The Examiner points out that the independent claims recite “a four-tier CORBA network” and that there is an insufficient antecedent basis for the “three-tier CORBA network” limitation in the claim. Appellants submit that the claim language clearly points out and distinctly claims the subject matter which Appellants regard as the invention. According to proper use of antecedent basis, “a three-tier CORBA network” clearly does not need an antecedent reference since this is the first

appearance of this feature in the claim. The Examiner is mistaken because the four-tier and three-tier CORBA networks are separate and distinct features of the claims. Therefore, there is proper antecedent basis for the elements. Therefore, this rejection is traversed.

Additionally, the Examiner points out that the limitation of “three-tier CORBA network” is indefinite in the claims. The Examiner states the limitation is indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner is mistaken. A three-tier CORBA network is not meant to be the exact same feature as a four-tier CORBA network. One of ordinary skill in the art would understand a three-tier network. Additionally, the Examiner points to *AAPA* where a three-tier CORBA network is described. Therefore, this rejection should be overturned.

C. GROUND OF REJECTION 2 (Claims 1-33)

The second ground of rejection is the assertion that claims 1-33 are obvious under 35 U.S.C. § 103 in view of *AAPA* and *Muller*. This rejection is respectfully traversed. Claim 1 is representative of this grouping of claims. In rejecting Claim 1, the examiner states that:

Rejection for Claim 1

APA teaches the multi-tiered network environment in the claimed invention. And HP teaches a Systems Management Platform that is intended to run and support multitiered environments (See Global tier – ability to manage more than one Hub – Chapter 12, page 245), Hub Tier – Chapter 12, Gateway Tier – Pages 119 – 123 and Target Tier, pages 35-37 and 179 – 185, (not clearly claimed is Spoke Tier see pages 97-103, the OpenView system on pages 1 and 2 cover the basic functionality of the product special interest is page 2 bullet 5 and bullets on page one, the product provides connection through an Inter Connect Manager see pages 29-31).

OpenView teaches automatically distributing and installing software file packages (HP, pages 184, Synchronization and Change Orchestration) throughout a multi-tiered computer architecture hierarchy (HP, Supports many topologies pages 210-216, 229-230, 246-250), said hierarchy including a global tier (HP OpenView is a global tier - ability to manage one or more Hubs - see Chapter 12 - page 245), a hub tier (HP, chapter 12 - Hubs) that is below said global tier, and a target tier that is below said hub tier (As per above and HP; pages 2 - 18), said method comprising the steps of:

receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier (HP, pages 179 - 182 and Chapter 12 pages 245 - 247 see Figures and pages 255-262); starting, by said global computer system, a distribution process in said hub computer system; distributing said file package and an installation process (HP, pages 182 - Software Management) from said global computer system to said hub computer system that is located in said hub tier (HP, Chapter 12) ; automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process (as per the cited sections above); and automatically installing, by said target computer system, said file package utilizing said installation process (HP, page 181, Target System and page 205, ability to manage software on stations).

It is APA who teaches a multi-tiered environment employing CORBA. And it is HP who teaches a commercial System Management Platform product that supports a plurality of tiers and environments including CORBA (HP, page 273). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine APA and HP, because the efficiency of the product to be able to keep hardware, software and firmware up to date, "The current market success of HP's OpenView is apparent by the many internetworking vendors who use this network management system as the framework for managing bridges, routers and hubs. OpenView is installed on more than 35,000 networks worldwide, and it is expected to eclipse NetView in 1995, making it the premiere network management system. In addition, key portions of OpenView form the basis of the Open Software Foundations (OSF) Distributed Management Environment (DME). (HP, Preface) and OpenView provides "*Software Distribution and Installation for central network-wide software distribution and installation. These management applications facilitate central monitoring and control of multiple systems which can be located at a central site or distributed among remote sites.*" (OpenView, page 2, bottom of the page).

Office action of May 19, 2008, pp. 4-5.

The Examiner bears the burden of establishing a *prima facie* case of obviousness based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are... determined; differences between the prior art and the claims at issue are... ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is

determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). “Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l. Co. v. Teleflex, Inc.*, No. 04-1350 (U.S. Apr. 30, 2007). “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)).”

Claim 1 is as follows:

1. A method in a data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy, said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB, a hub tier that is below said global tier, a target tier that is below said hub tier, and a gateway tier between the hub tier and the target tier, said method comprising the steps of:
 - receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier;
 - starting, by said global computer system, a distribution process in said hub computer system;
 - distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier;
 - automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process; and
 - automatically installing, by said target computer system, said file package utilizing said installation process.

C.1. Response to Rejection, Generally

Neither *AAPA* nor *Muller* take into account the global tier in a CORBA ORB environment, as is reflected in Claim 1. The Examiner may not assume, as the Examiner has, that software distribution (as in *Muller*) can be applied to a global tier in a CORBA environment, as in Claim 1.

As stated in the background of the specification, which is quoted by the Examiner, “A problem may arise in a CORBA environment because the environment is limited by the CORBA

specification to being only a three-tier CORBA ORB system.” Thus, a global system (as is claimed) is *qualitatively different* than a *three-tier* CORBA ORB system. For this reason, the four-tier CORBA ORB system of Claim 1 is *qualitatively different* than the software distribution system presented in *Muller*.

Because the systems of *AAPA* and *Muller* are qualitatively different, as shown in *AAPA* itself, one of ordinary skill could not technically combine the references to achieve the claimed invention. For similar reasons, one of ordinary skill would have no reason to combine the references to achieve the claimed invention. Thus, no reason can be stated to achieve the legal conclusion that Claim 1 is obvious in view of the references under the standard of *KSR Int’l*. Accordingly, no *prima facie* obviousness rejection can be stated against this grouping of claims using a combination of these references.

C.2. Response to Rejection, Specifically

C.2.i. The Proposed Combination Does Not Teach or Suggest all of the Features of Claim 1

The combination of *Muller* and *AAPA* does not anticipate Claim 1 because the proposed combination does not teach each and every feature as recited in Claim 1. For example, *Muller* does not teach distributing and installing software file packages throughout a multi-tiered computer architecture hierarchy, said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB, a hub tier that is below said global tier, a target tier that is below said hub tier, and a gateway tier between the hub tier and the target tier, as recited in Claim 1. The Examiner asserts otherwise, relying on *AAPA* to teach CORBA ORBs and *Muller* to teach software distribution throughout tiered networks.

Muller, pages 2-8 discusses the OpenView Framework. The OpenView Framework includes system management tools for facilitating central monitoring and control of multiple systems (*Muller*, p. 2). Additionally, the OpenView Framework includes Network management tools for integrating LAN and WAN multi-vendor environments under central control (*Muller*, p. 3). The OpenView Framework also includes OpenView Components for providing an infrastructure for the management of computing environments (*Muller*, p. 3). The OpenView Framework also includes presentation services, such as user displays (*Muller*, p. 4). Furthermore, the OpenView Framework includes Distributed Communication Infrastructure to

make it possible for management applications to access the services of OpenView across a network. Additionally, the OpenView Framework includes event management and data management services. Event management services gather and forward such events as node failures and application changes, while data management services allow information about network elements to be stored in a common location (*Muller*, p. 6).

Muller teaches that the OpenView Framework consists of tools for managing and monitoring the network. However, *Muller* does not teach distributing and installing software file packages throughout a multi-tiered computer architecture hierarchy, said hierarchy including said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB, a hub tier that is below said global tier, a target tier that is below said hub tier, and a gateway tier between the hub tier and the target tier as recited in claim 1.

Additionally, *AAPA* does not teach or suggest this claimed feature. *AAPA* only states that, “A problem may arise in a CORBA environment because the environment is limited by the CORBA specification to being only a three-tier CORBA ORB system.” Thus, *AAPA* does not teach or suggest the claimed four-tier CORBA ORB system. Accordingly, the proposed combination of references, considered as a whole, does not teach or suggest this claimed feature. Therefore, under the standards of *In re Royka*, no *prima facie* obviousness rejection can be stated against this grouping of claims using a combination of *AAPA* and *Muller*.

C.2.ii. No Rational Reason Can Be Stated to Achieve the Legal Conclusion of Obviousness

Additionally, no rational reason can be stated to achieve the legal conclusion of obviousness in view of the references, considered as a whole. As shown above, *AAPA* specifically identifies problems associated with distribution of software in a four-tier CORBA ORB system. *Muller* fails to address these particular technical problems. Therefore, one of ordinary skill in the art *lacks the technical skill* to combine the references to achieve the claimed invention. The burden is on the Examiner to prove otherwise. Because one of ordinary skill in the art lacks the technical skill to combine the references, no rational reason can be stated to achieve the legal conclusion of obviousness of Claim 1 in view of these references.

Still further, one of ordinary skill would not consider Claim 1 obvious in view of the references considered as a whole. Because *AAPA* identifies a specific problem with software distribution in four-tier CORBA ORB systems, and because *Muller* does not address this

particular technology, one of ordinary skill in the art would consider the two references to be un-combinable. Even if the references would be considered combinable, one of ordinary skill in the art would lack the ability to implement the ideas presented in *Muller* with the CORBA ORB system presented in *AAPA*. Accordingly, again, no reason exists to achieve the legal conclusion of obviousness of Claim 1 in view of these two references, considered as a whole. Therefore, under the standards of *KSR Int'l.*, no *prima facie* obviousness rejection can be stated against this grouping of claims in view of *AAPA* and *Muller*, considered as a whole. Accordingly, this rejection should be overturned.

C.3. Refutation of Examiner's Response

In response to the facts established above, the Examiner asserts that:

9. Applicant's arguments with respect to the claims on January 22, 2008 have been considered but are moot in view of the new ground(s) of rejection.

Office action of May 19, 2008, p. 13.

The Examiner merely finds, in a conclusory statement that offers no counter for the fact that the Applicants arguments other than finding them moot. The Examiner is mistaken. The Examiner has made only minor changes to the rejection. These changes do not traverse most of the arguments that the Applicants have made. Additionally, such conclusory statements are forbidden by *KSR Intl.* Therefore, the Examiner's response does not establish the unpatentability of the claims.

C. CONCLUSION

As shown above, the Examiner has failed to state valid rejections against any of the claims. Therefore, Applicants request that the Board of Patent Appeals and Interferences reverse the rejections. Additionally, Applicants request that the Board direct the Examiner to allow the claims.

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Respectfully submitted,

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CLAIMS APPENDIX

The text of the claims involved in the appeal is as follows:

1. A method in a data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy, said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB, a hub tier that is below said global tier, a target tier that is below said hub tier, and a gateway tier between the hub tier and the target tier, said method comprising the steps of:
 - receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier;
 - starting, by said global computer system, a distribution process in said hub computer system;
 - distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier;
 - automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process; and
 - automatically installing, by said target computer system, said file package utilizing said installation process.
2. The method according to claim 1, further comprising the steps of:
 - providing a three-tier *CORBA* network, said *CORBA* network including a hub *CORBA* ORB coupled to a second spoke *CORBA* ORB, and said spoke *CORBA* ORB being coupled to a gateway *CORBA* ORB, wherein said hub *CORBA* ORB occupies said hub tier of said

architecture, said spoke *CORBA* ORB occupies a spoke tier of said architecture, said spoke tier between said hub tier and a gateway tier, and said gateway *CORBA* ORB occupies said gateway tier, said gateway tier being located between said gateway tier and said target tier; and

coupling said global computer system to said three-tier *CORBA* network, said global computer system occupies a top tier of said architecture over said first tier, said global computer system functioning as a *CORBA* ORB and treating said hub *CORBA* ORB as a managed node.

3. The method according to claim 1, further comprising the steps of:

assigning a unique request identifier to said distribution request; and

tracking processing of said distribution request as it is processed by said global computer system, said hub computer system, and said target computer system using said unique request identifier.

4. The method according to claim 1, further comprising the steps of:

determining by said global computer system whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful;

in response to a determination that said distribution was unsuccessful, re-attempting said distribution.

5. The method according to claim 1, further comprising the steps of:

including a queue within said global computer system for storing distribution requests;

in response to receiving said distribution request, placing said distribution request in said queue; and

processing a next request from said queue utilizing said global computer system.

6. The method according to claim 5, further comprising the steps of:

determining by said global computer system whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful;

in response to a determination that said distribution was unsuccessful, re-queueing said distribution request by restoring said distribution request in said queue; and

said global computer system making another attempt to distribute said distribution request without requiring that said distribution request be resubmitted to said global computer system.

7. The method according to claim 1, further comprising the steps of:

in response to receiving said distribution request within said global computer system, locking, by said global computer system, said hub computer system to prevent said hub computer system from processing other requests while said hub computer system is processing said distribution request.

8. The method according to claim 7, further comprising the steps of:

locking said hub computer system using a unique request identifier that identifies said distribution request.

9. The method according to claim 7, further comprising the steps of:
- determining whether said hub computer system is available prior to said global computer system locking said hub computer system;
- in response to a determination that said hub computer system is unavailable, waiting until said hub computer system becomes available; and
- in response to a determination that said hub computer system is available, locking said hub computer system.
10. The method according to claim 1, further comprising the steps of:
- including a plurality of file package requests within said distribution request, each one of said file package requests being a request to either install a particular file package or remove a particular file package; and
- including in said distribution request an installation script for each one of said file requests that is a request to install a particular file package.
11. The method according to claim 1, further comprising the steps of:
- receiving, within said global computer system that is located in said global tier, a distribution request to distribute a plurality of file package requests to a target computer system that is in said target tier;
- each one of said file package requests being a request to either install a particular file package on said target or to remove a particular file package from said target;

including in said distribution request an installation script for each one of said file requests that is a request to install a particular file package;

starting, by said global computer system, a distribution process in said hub computer system;

distributing said plurality of file packages and an installation process from said global computer system to said hub computer system that is located in said hub tier;

utilizing said distribution process within said hub to automatically distribute to said target computer system ones of said file package requests that are requests to remove a particular file package from said target computer system;

automatically removing, by said target computer system, said particular file for each of said ones of said file package requests that are requests to remove a particular file;

utilizing said distribution process within said hub to automatically distribute to said target computer system ones of said file package requests that are requests to install a particular file package on said target computer system;

automatically installing, by said target computer system, said particular file for each of said ones of said file package requests that are requests to install a particular file; and

said removal requests being executed prior to said installation requests.

12. A data processing system for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy, said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB, a hub tier that is below said global tier, a target tier that is below said hub tier, and a gateway tier between the hub tier and the target tier, said system comprising:

a global computer system that is located in said global tier receiving a distribution request to distribute a file package to a target computer system that is located in said target tier;

said global computer system starting a distribution process in said hub computer system;

said global computer system distributing said file package and an installation process to said hub computer system that is located in said hub tier;

said hub computer system utilizing said distribution process to automatically distributing said file package and said installation process to said target computer system; and

said target computer system automatically installing said file package utilizing said installation process.

13. The system according to claim 12, further comprising:

a three-tier *CORBA* network, said *CORBA* network including a hub *CORBA* ORB coupled to a second spoke *CORBA* ORB, and said spoke *CORBA* ORB being coupled to a gateway *CORBA* ORB, wherein said hub *CORBA* ORB occupies said hub tier of said architecture, said spoke *CORBA* ORB occupies a spoke tier of said architecture, said spoke tier between said hub tier and a gateway tier, and said gateway *CORBA* ORB occupies said gateway tier, said gateway tier being located between said gateway tier and said target tier; and

said global computer system coupled to said three-tier *CORBA* network, said global computer system occupies a top tier of said architecture over said first tier, said global computer system functioning as a *CORBA* ORB and treating said hub *CORBA* ORB as a managed node.

14. The system according to claim 12, further comprising:

a unique request identifier assigned to said distribution request; and

said unique request identifier for tracking processing of said distribution request as it is processed by said global computer system, said hub computer system, and said target computer system.

15. The system according to claim 12, further comprising:

said global computer system determining whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful;

in response to a determination that said distribution was unsuccessful, said global computer system re-attempting said distribution.

16. The system according to claim 12, further comprising:

a queue included within said global computer system for storing distribution requests;

in response to receiving said distribution request, said distribution request being placed in said queue; and

said global computer system processing a next request from said queue.

17. The system according to claim 16, further comprising:

said global computer system determining whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful;

in response to a determination that said distribution was unsuccessful, said distribution request being re-queuing said distribution request by restoring said distribution request in said queue; and

said global computer system making another attempt to distribute said distribution request without requiring that said distribution request be resubmitted to said global computer system.

18. The system according to claim 12, further comprising:

in response to receiving said distribution request within said global computer system, said global computer system locking said hub computer system to prevent said hub computer system from processing other requests while said hub computer system is processing said distribution request.

19. The system according to claim 18, further comprising:

said hub computer system being locked using a unique request identifier that identifies said distribution request.

20. The system according to claim 18, further comprising:

said global computer system determining whether said hub computer system is available prior to said global computer system locking said hub computer system;

in response to a determination that said hub computer system is unavailable, said global computer system waiting until said hub computer system becomes available; and

in response to a determination that said hub computer system is available, said global computer system locking said hub computer system.

21. The system according to claim 12, further comprising:

said distribution request including a plurality of file package requests, each one of said file package requests being a request to either install a particular file package or remove a particular file package; and

said distribution request including an installation script for each one of said file requests that is a request to install a particular file package.

22. The system according to claim 12, further comprising:

said global computer system that is located in said global tier receiving a distribution request to distribute a plurality of file package requests to a target computer system that is in said target tier;

each one of said file package requests being a request to either install a particular file package on said target or to remove a particular file package from said target;

said distribution request including an installation script for each one of said file requests that is a request to install a particular file package;

said global computer system starting a distribution process in said hub computer system;

said global computer system distributing said plurality of file packages and an installation process to said hub computer system that is located in said hub tier;

said hub computer system utilizing said distribution process included in said hub computer system to automatically distribute to said target computer system ones of said file

package requests that are requests to remove a particular file package from said target computer system;

said target computer system automatically removing said particular file for each of said ones of said file package requests that are requests to remove a particular file;

said hub computer system utilizing said distribution process within said hub computer system to automatically distribute to said target computer system ones of said file package requests that are requests to install a particular file package on said target computer system;

said target computer system automatically installing said particular file for each of said ones of said file package requests that are requests to install a particular file; and

said removal requests being executed prior to said installation requests.

23. A computer program product in a recordable-type medium for automatically distributing and installing software file packages throughout a multi-tiered computer architecture CORBA hierarchy, said hierarchy including a four-tier CORBA network that includes a global tier functioning as a CORBA ORB, a hub tier that is below said global tier, a target tier that is below said hub tier, and a gateway tier between the hub tier and the target tier, said computer program product comprising:

instruction means for receiving, within a global computer system that is located in said global tier, a distribution request to distribute a file package to a target computer system that is located in said target tier;

instruction means for starting, by said global computer system, a distribution process in said hub computer system;

instruction means for distributing said file package and an installation process from said global computer system to said hub computer system that is located in said hub tier;

instruction means for automatically distributing said file package and said installation process to said target computer system from said hub computer system utilizing said distribution process; and

instruction means for automatically installing, by said target computer system, said file package utilizing said installation process.

24. The product according to claim 23, further comprising:

a three-tier *CORBA* network, said *CORBA* network including a hub *CORBA* ORB coupled to a second spoke *CORBA* ORB, and said spoke *CORBA* ORB being coupled to a gateway *CORBA* ORB, wherein said hub *CORBA* ORB occupies said hub tier of said architecture, said spoke *CORBA* ORB occupies a spoke tier of said architecture, said spoke tier between said hub tier and a gateway tier, and said gateway *CORBA* ORB occupies said gateway tier, said gateway tier being located between said gateway tier and said target tier; and

instruction means for coupling said global computer system to said three-tier *CORBA* network, said global computer system occupies a top tier of said architecture over said first tier, said global computer system functioning as a *CORBA* ORB and treating said hub *CORBA* ORB as a managed node.

25. The product according to claim 23, further comprising:

instruction means for assigning a unique request identifier to said distribution request; and

instruction means for tracking processing of said distribution request as it is processed by said global computer system, said hub computer system, and said target computer system using said unique request identifier.

26. The product according to claim 23, further comprising:

instruction means for determining by said global computer system whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful;

in response to a determination that said distribution was unsuccessful, instruction means for re-attempting said distribution.

27. The product according to claim 23, further comprising:

instruction means for including a queue within said global computer system for storing distribution requests;

in response to receiving said distribution request, instruction means for placing said distribution request in said queue; and

instruction means for processing a next request from said queue utilizing said global computer system.

28. The product according to claim 27, further comprising:

instruction means for determining by said global computer system whether said distribution of said file package and said installation process from said global computer system to said hub computer system was successful;

in response to a determination that said distribution was unsuccessful, instruction means for re-queuing said distribution request by restoring said distribution request in said queue; and
said global computer system making another attempt to distribute said distribution request without requiring that said distribution request be resubmitted to said global computer system.

29. The product according to claim 23, further comprising:

in response to receiving said distribution request within said global computer system, instruction means for locking, by said global computer system, said hub computer system to prevent said hub computer system from processing other requests while said hub computer system is processing said distribution request.

30. The product according to claim 29, further comprising:

instruction means for locking said hub computer system using a unique request identifier that identifies said distribution request.

31. The product according to claim 29, further comprising:

instruction means for determining whether said hub computer system is available prior to said global computer system locking said hub computer system;

in response to a determination that said hub computer system is unavailable, instruction means for waiting until said hub computer system becomes available; and

in response to a determination that said hub computer system is available, instruction means for locking said hub computer system.

32. The product according to claim 23, further comprising:

instruction means for including a plurality of file package requests within said distribution request, each one of said file package requests being a request to either install a particular file package or remove a particular file package; and

instruction means for including in said distribution request an installation script for each one of said file requests that is a request to install a particular file package.

33. The product according to claim 23, further comprising:

instruction means for receiving, within said global computer system that is located in said global tier, a distribution request to distribute a plurality of file package requests to a target computer system that is in said target tier;

each one of said file package requests being a request to either install a particular file package on said target or to remove a particular file package from said target;

instruction means for including in said distribution request an installation script for each one of said file requests that is a request to install a particular file package;

instruction means for starting, by said global computer system, a distribution process in said hub computer system;

instruction means for distributing said plurality of file packages and an installation process from said global computer system to said hub computer system that is located in said hub tier;

instruction means for utilizing said distribution process within said hub to automatically distribute to said target computer system ones of said file package requests that are requests to remove a particular file package from said target computer system;

instruction means for automatically removing, by said target computer system, said particular file for each of said ones of said file package requests that are requests to remove a particular file;

instruction means for utilizing said distribution process within said hub to automatically distribute to said target computer system ones of said file package requests that are requests to install a particular file package on said target computer system;

instruction means for automatically installing, by said target computer system, said particular file for each of said ones of said file package requests that are requests to install a particular file; and

said removal requests being executed prior to said installation requests.

EVIDENCE APPENDIX

This appeal brief presents no additional evidence.

RELATED PROCEEDINGS APPENDIX

This appeal has no related proceedings.